

Colorado Department of Agriculture Factual and Policy Issues Related to the Use of Pesticides on Cannabis

The factual and policy issues encountered when developing the Pesticide Applicators' Act Rules which establish the requirements in which pesticides may be used for the production of Cannabis in Colorado are as follows:

- 1) Under Executive Order D 2013-007 the Colorado Department of Agriculture is required to establish a list of pesticides that are prohibited to use in the cultivation of retail marijuana under Title 12, Article 43.4, C.R.S.. These Rules, which are being simultaneously adopted under the PAA, regulate the use of pesticides on all cannabis, including retail marijuana, medical marijuana, and industrial hemp.
- 2) The use of pesticides in Colorado is regulated under the Pesticide Applicators' Act, sections 35-10-101 – 128, C.R.S. (PAA). Pesticide regulation is based on the labeling of the pesticide product, the language of which is enforceable under the PAA. Because cannabis is not a specifically listed crop on any label currently registered with CDA, products with broad label statements that do not prohibit use on cannabis are currently the only ones that may be used legally on cannabis in Colorado.
- 3) These Rules and criteria are being established to allow the use of certain pesticides in the cultivation of cannabis based on the available science and information CDA can confirm at this time. Without these Rules and the criteria they set out, the use of a pesticide that has not had a tolerance established for use on edibles (food), or the use of a pesticide that is not intended to be consumed through inhalation by smoking, could be allowed on cannabis by a broadly worded label, even though such use would be “unsafe” under sections 35-10-117(1)(i) and (2)(a) of the PAA.
- 4) Both the PAA and the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) require that all pesticides be applied in strict accordance with the label directions for the particular product. As part of the directions for use, pesticide labels specify the particular crops and/or sites to which they can be applied. Depending on the particular pesticide, the crops/sites listed on the label can be expressed very specifically (e.g., “wheat”), or more generally (e.g., “grain crops”). While a pesticide with a label that specifies “wheat” can only be applied to wheat, a pesticide that lists “grain crops” on the label can be applied to wheat, barley, oats, rye, etc. In determining which pesticides, if any, may be used legally on cannabis, CDA initially consulted with the U.S. Environmental Protection Agency (EPA) as to whether there might be any general crop groups, such as herbs, spices or vegetable gardens, into which cannabis might fit (note: there are no registered pesticides that specifically list cannabis as a crop on the label). The current position of EPA is that cannabis is not an herb, a spice or a vegetable. However, EPA agrees that, depending on actual label language, it is not a violation of a pesticide label under the PAA or FIFRA to use the product on cannabis if it has certain, very generally worded descriptions of crops/sites on the label, and the product's active ingredient is exempted from the requirement of a tolerance.

- 5) Tolerances are established by EPA in accordance with the Federal Food and Drug Cosmetic Act, U.S.C. Title 21, Section 408. A tolerance is the maximum amount of the active ingredient of a pesticide product that is allowed to remain in or on a food crop as residue after application of the product. Pesticide products that have significant toxicity, which could pose a hazard to public health if threshold amounts are exceeded when consumed and could result in acute or chronic poisoning, are required to have tolerances established by EPA. Tolerances for a given active ingredient typically vary depending on the specific food crop to which it is applied. EPA sets tolerances by determining that there is a reasonable certainty that no harm will result from aggregate exposure to the pesticide chemical residues at the tolerance levels established, including all anticipated dietary exposures. Exemptions from tolerances are established under 40 CFR, Part 180, Subpart D: 180.900: "... An exemption from a tolerance shall be granted when it appears that the total quantity of the pesticide chemical in or on all raw agricultural commodities for which it is useful under conditions of use currently prevailing or proposed will involve no hazard to the public health."
- 6) Section 3 of FIFRA provides EPA the authority and 40 C.F.R., Parts 150-167, outline the requirements to register a pesticide with EPA. Pesticide labeling is derived through EPA risk assessments required to be conducted as a condition of registration that determine the manner and rates of application in which a pesticide may be used on a site or a crop without resulting in adverse impacts to public health or the environment. To date no risk assessments have been conducted specifically for pesticide use on marijuana.
- 7) Risk assessments have been conducted to determine what pesticide active ingredients are tolerance exempt. EPA has determined that for those active ingredients determined to be tolerance exempt, "...the total quantity of the pesticide chemical in or on all raw agricultural commodities...will involve no hazard to the public health."
- 8) EPA requires that a pyrolysis study be conducted during the risk assessment process for products intended to be smoked such as tobacco, unless EPA has exempted the pesticide from pyrolysis studies due to the nature of the pesticide.
- 9) The Colorado Food and Drug Act (CFDA) provides the Colorado Department of Public Health and Environment (CDPHE) with authority over cannabis contaminated with pesticide residues ("adulterated" under the CFDA) that is very similar to the authority used by FDA to deal with pesticide contamination of all other agricultural crops. The CFDA gives CDPHE specific authority over "unsafe" "pesticide chemicals" in "raw agricultural commodities," the definition of which is broad enough to include cannabis which is grown, harvested and then processed and sold for consumption through various means, including ingestion as a component of food (in edibles).

Under the CFDA, "food" is defined to mean "articles used for food or drink for man or other animals...and articles used for components of any such article." C.R.S. § 25-5-402(11). "Food" includes any "raw agricultural commodity," which is "any food in its raw or natural state...." C.R.S. § 25-5-402(21). Cannabis, which is grown and used as a component in many forms of edible food products, thus qualifies as a raw agricultural commodity under the CFDA. Although not all cannabis is used in edibles ("food" under the CFDA) cannabis can be used for any purpose after harvest, including food use, thus warranting treatment of all cannabis crops as a food for pesticide regulation purposes.

Under section 25-5-410(1)(b)(II) of the CFDA, "a raw agricultural commodity" is "deemed to be adulterated" if "it bears or contains a pesticide chemical which is unsafe within the meaning of section 25-4-413(1)" unless the concentration of the residue is less

than the tolerance set for the commodity or is tolerance exempt as provided for in section 25-5-413(1). Section 25-5-413(1) in turn states that, "[a]ny pesticide chemical in or on a raw agricultural commodity... shall be deemed unsafe for the purpose of application of section 25-5-401(1)(b)" unless there is a tolerance established for that crop and the residue level is within that tolerance. Thus unless a pesticide found on a cannabis crop has a tolerance for use on cannabis or is tolerance exempt, its presence in any amount on cannabis constitutes adulteration that renders the cannabis unsafe for human consumption under the CFDA as a matter of law. These Rules reflect and follow the General Assembly's determination in the CFDA that consumption of food containing pesticides without a tolerance or exemption is unsafe. The Rules thus prohibit the application of such pesticides to cannabis as similarly unsafe as under the PAA in order to prevent adulteration from pesticides as addressed in the CFDA from occurring.

This approach for regulating pesticide use in order to prevent contamination of cannabis is the same as EPA and CDA apply to any other multipurpose-purpose agricultural commodity that can be used in food after harvest. It reflects the fact that neither EPA nor CDA have any way of knowing or controlling what a grower of such crop chooses to do with the crop once harvested. For example, under EPA's registration system, any pesticide labeled for use on cotton, which once harvested can be used for both fiber and food (in the form of cotton oil), must have a tolerance established and be labeled for food use even though the particular cotton crop to which it is applied in the field may not ultimately be used as food.

- 10) Depending on how it is processed and sold after harvest, cannabis may be consumed through inhalation (smoking), ingestion (eating) and through dermal exposures (creams and lotions applied topically). Due to the lack of specific risk assessments or tolerances for use of any pesticides specifically on cannabis CDA, in accordance with the CFDA, has determined that it is unsafe to apply any pesticide to cannabis that requires a tolerance for applications to raw commodities or that is not approved for use on tobacco.
- 11) CDA has identified certain pesticide products whose use on cannabis would not constitute a violation of the label due to the very general use statements on the label. In addition, because the active ingredient(s) of these pesticide products are exempt from a tolerance requirement they in most cases provide for use on crops that may be consumed. However, broad labeling and a tolerance exemption for food use does not necessarily mean the active ingredient was tested or approved for use on products to be smoked, such as tobacco. Since cannabis may also be consumed by smoking, any pesticide product allowed for use on cannabis must also have active ingredients that are allowed for use on tobacco to ensure EPA has considered use on commodities intended to be smoked in their risk assessment.
- 12) CDA is proposing that the only pesticides allowed for use on cannabis be those registered with CDA in accordance with Title 35, Article 9, C.R.S. This will prevent the application of "home-made" pesticide concoctions containing active ingredients that may be unknown and could pose a serious health risk to the applicator and end user if consumed. This will also ensure that any pesticide product applied to cannabis has had a risk assessment conducted to determine allowed uses.
- 13) These Rules set forth the specific criteria, which if met, will prevent the use of pesticides for the cultivation of cannabis in an unsafe manner that would violate sections 35-10-

117(1)(i) and (2)(a) of the PAA. Section 3 registered pesticide products may be used on cannabis if:

- a. The active ingredients have been determined to be tolerance exempt from the requirements of a tolerance, as established under 40 C.F.R. Part 180, Subparts D and E. EPA has established in the risk assessment process that these products are of lowest toxicity and therefore do not require tolerances to be established for use on raw commodities.
- b. The label has broad language that allows the use of the pesticide on the site of application. The term “site” includes all sites of application, including interior, exterior sites, structures in which application may be made, as well as the actual plant or crop.
- c. The pesticide product label expressly allows use on crops intended for human consumption. This is intended to prevent the use of pesticides on cannabis that although broadly labeled, are not tested or intended for use on food crops.
- d. The pesticide’s active ingredients must be allowed by EPA for use on tobacco. Pesticide products may contain active ingredients that have had risk assessments conducted for consumption in food, but those active ingredients may not have been tested or intended to be burned and inhaled. Requiring that all active ingredients in pesticides used on cannabis have EPA-allowed uses on tobacco, will ensure that EPA has considered this in their risk assessment process..
- e. Some pesticide products may meet all of the required criteria except being expressly labeled for food use due to marketing toward other markets. Nevertheless, if CDA can verify with the manufacturer that the product’s master label allows food uses and that all of the active and inert ingredients are allowed for use on food crops and tobacco, CDA through this Rule will have the authority to allow the product’s use on cannabis.

- 14) Under the authority of section 24(c) of FIFRA, states may register an additional use of a federally registered pesticide product, or a new end use product, to meet special local needs. EPA reviews these registrations, and may disapprove the state registration if, among other things, the use is not covered by necessary tolerances, or the use has been previously denied, disapproved, suspended or canceled by the Administrator, or voluntarily canceled subsequent to a notice concerning health or environmental concerns.

These Rules will allow the use of pesticide products on cannabis that have gone through the 24(c) registration process. The 24(c) process will require additional data submission specifically to address use on cannabis, including residue studies and considerations for extracts as well as submission of specific use instructions for use on cannabis. EPA will review this information and deny the registration if it does not support the use.

- 15) EPA has determined that certain "minimum risk pesticides," commonly referred to as “25(b) pesticides,” pose little to no risk to human health or the environment. EPA has exempted them from the requirement that they be registered under FIFRA. These products must still be registered with CDA and meet minimum FIFRA standards for labeling requirements and claims.

There may be some 25(b) products that the manufacturer did not intend to allow end users to consume. The Rule will only allow the use of 25(b) minimum risk pesticide products on cannabis if the pesticide labeling allows use on crops or plants intended for human consumption.

- 16) The Rules will allow the Commissioner to prohibit the use of any pesticide that he determines could pose a threat to public health and safety or the environment, even if it otherwise meets the Rules' criteria. Pesticide use on cannabis is a newly regulated area of agriculture and new information is coming to light daily. This will give CDA the means to stop the use of any previously approved pesticide when new information or science establishes that such use would be unsafe.
- 17) Applying the criteria in the Rules to the more than 12,000 pesticides currently registered with the State of Colorado, CDA has determined that there are less than two hundred pesticides that can be legally used in the cultivation of cannabis. In order to inform cannabis growers which pesticides are available to them, CDA has created a list of pesticides that can be legally used. This list will be published on CDA's website and updated as needed.